CMA
DISHMACHINES

MODEL CMA-180

Service & Parts

Rev 2.02A

CMA DISHMACHINES
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1. Specifications

1.1 CMA-180

		Metric Equivalent
WATER CONSUMPTION		
PER RACK	.96 GAL.	(3.6 L)
PER HOUR	52 GAL.	(197 L)
OPERATING CYCLE		
WASH TIME-SEC	49	49
RINSE TIME-SEC	12	12
TOTAL CYCLE	61 SEC.	61 SEC.
OPERATING CAPACITY		
RACKS PER HOUR (NSF rated)	54	54
WASH TANK CAPACITY	8 GAL.	(30.3 L)
PUMP CAPACITY	68 GPM	(257 LPM)
WATER REQUIREMENTS		
WITHOUT BOOSTER HEATER	180°F	(82°C)
WITH BOOSTER HEATER	140°F	(60°C)
WATER INLET	¾"	---
DRAIN CONNECTION	2"	---
RINSE PRESSURE SET	20 PSI	1.41 kg/cm^2
CYCLE TEMPERATURES		
WASH-°F	155°F-160°F	(68°C/71°C)
RINSE-°F	180°F-195°F	(82°C/90°C)
DIMENSIONS		
DEPTH	25"	(63.5cm)
WIDTH	25 ½"	(65cm)
HEIGHT	59-60	(150-152cm)
STANDARD TABLE HEIGHT	34"	(86.3cm)
MAX CLEARANCE FOR DISHES	17 ½"	
DRAIN CONNECTION (OFF FLOOR)	11 ½" – 12 ½"	(29-32cm)

1.1 CMA-180

ELECTRICAL RATING	VOLTS	PHASE	Metric Equivalent AMPS
WITHOUT BOOSTER	208	1	28
	240	1	30
	208	3	20
	240	3	21
ELECTRICAL RATING	208	1	71
WITH BOOSTER	240	1	80
	208	3	45
	240	3	50

SHIPPING WEIGHT	
WITHOUT BOOSTER	332#
WITH BOOSTER	375#

2. Getting Started

2.1. Introduction to CMA-180

This manual is structured to provide a complete reference guide to the CMA-180. It is presented in a manner that all users will be able to comprehend and use as an effective tool in supporting the operation and maintenance of the dishmachine. The first section explains how the machine is packaged and what to look for when receiving the machine.

The CMA-180 is a hot water sanitizing, single rack, door-type dishmachine. It is a stand-alone machine featuring an internal booster heater (optional). The only external connections necessary are power supply, water supply, drainpipe, and chemical dispensers. The machine utilizes re-circulated wash water and fresh water final rinse. The CMA-180 can be converted both as a straight through and corner with a door handle kit.

Operation of the CMA-180 is automatic. When the door is opened and then closed, the wash cycle begins automatically. To initially fill the machine daily, open the hand operated fill valve (optional auto fill available) on the top of the machine. The machine is full when water begins to flow into the scrap trap. The wash tank heater will maintain the wash water temperature at 155°F. The booster heater will produce a minimum of 180°F final rinse water each cycle providing the incoming water supply is a minimum 140°F.

Instructions are provided in the manual explaining how to unpack the machine, then install, and set up the machine for use. Requirements are given for plumbing, wiring, and space considerations. *These attributes of the machine are always taken into consideration by our well-trained sales representatives prior to the order being placed*. In the manual, additional installation guidance is given to ensure the machine can run at optimum conditions.

The Operation Section of the manual may be used for instruction and procedures when required. We make this portion of the manual easy to understand so that all levels of operators may be able to read and comprehend the operation of the machine. The function of the machine itself is mostly automatic and takes little training to put into full operation. The Operation Section also includes diagnostic considerations for the machine when problems occur.

Our mission is to provide our customers with the highest quality products and the highest quality service, always delivering more than we promise and more than he or she expects. We will strive to do business the way the customer wants to do business, on a mutually profitable basis.

We are committed to providing the best machines and customer service in the food industry and your feedback is welcome.

CMA warrants the workmanship of the machine.

2.2. Receiving and Installation

Step 1: Remove packaging material.

Step 2: Remove the Installation & Operation Manual from inside the wash tank.

Step 3: It is recommended that a distance of at least eight inches (8") be between the table scrap sink and the dishmachine.

2.2.1 Electrical*

The control panel provides a 1" conduit connection point on the rear of the panel. Refer to Section 3 for wiring options.

This machine is equipped to handle both single and three phase applications. See Section 1: Specifications 1.1 for the proper electrical ratings.

2.2.2 Plumbing*

Minimum 140°F / Minimum 180°F (if machine ordered without booster heater, water supply ¾" – minimum 20 PSI, 6 GPM flow rate and 60 GPH recovery rate. Plumbing connection located on the top of the machine.

The drain is a two-inch (2") pipe sleeve attached by "No-Hub" plumbing connection at the bottom of the scrap trap. The facilities drain must not be higher than 11" to allow the machine to drain properly.

***Electrical and pluming connections must be made by qualified person who comply with all available Federal, State, and Local Health, Electrical, Plumbing and Safety codes**

2.2.3 Installation Checklist

Dishmachine checked for concealed damage.

Hot water supply is 140° (60°C)

Incoming water supply line is ¾".

Incoming water supply is 6 GPM minimum capable at 20 PSI flow pressure.

Machine circuit breaker is properly sized.

Service voltage and phase type are correct to machine data plate.

High leg of voltage is connected to L2 (three-phase).

Dishmachine is properly ventilated.

Floor drain plumbing is installed with air gap. MUST MEET LOCAL CODES.

Dishmachine is properly grounded.

Dishmachine is properly leveled.

Dish rack guides are adjusted to level of dish table.

Machine circuit breaker is labeled D/W

2.2.4 Machine Start-Up Procedures

1. Place the scrap baskets over the wash tanks.
2. Secure the wash & rinse arms and check the free-spin.
3. Open the control panel and select ‘normal” toggle switch position.
4. Adjust the rinse pressure to 20 PSI flow pressure using the regulator and the gauge provided on machine.
    a. Turn the power switch to the “Off” position.
    b. Close doors and open the hand-operated fill valve until the water overflows into the scrap trap.
    c. Turn the power switch to “on” position. *SEE NOTE FOR BOOSTER HEATER BELOW.*
    d. While holding “flush” toggle switch, to activate the water solenoid, adjust the pressure regulator until the gauge reads 20 PSI*. NOTE: Booster heater is filled during this procedure.*
5. Connect the detergent and rinse dispenser to the power block supplied & labeled inside the control panel (208-220) volt.
6. Remove the plug from the mixing chamber and install the rinse injection fitting.
7. A 7/8” chemical probe hole is provided in the wash tank behind wash tank heater cover.
8. A 7/8” detergent fitting hole is provided in the wash tank behind the machine.
9. Check the machine operating temperatures. Adjust if necessary.
    a. After the machine has warmed up for five to ten minutes (5 – 10 min.), observe the wash and rinse temperatures. The wash temperature must be 155°F minimum. The rinse temperature must be 180°F minimum. If necessary, adjust the temperatures by removing the panel in front of the respective heater and turning the adjustment stem clockwise to increase.

NOTE: Rinse water temperature must be observed during the rinse cycle.

10. Check all water and drain fittings for leaks.
11. Install the wall chart and instruct the machine operator on the proper cleaning and operation of the CMA-180.

NOTE: Booster Heater
Booster heater is shipped on the dishmachine empty to prevent freezing. When the machine is powered up for the first time, the booster heater must be filled immediately to prevent damage to the heating element. See Section 2.2.4 (4d.)

2.2.5 Electrical Requirements

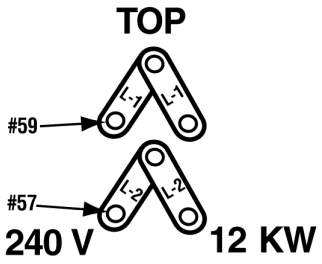
The CMA-180 comes standard factory, wired for 3-phase operation. Check the electrical data plate to confirm this. If the facility requires 1 phase, refer to "Electrical Requirements", Section 1-A, for proper wiring instruction for conversion. Also check the wiring diagram to properly wire the wash tank heater, and booster heater for 1 phase (or 1B diagram below).

SINGLE PHASE POWER

NOTE: 80 amp service is required when CMA-180 is wired for single-phase with the booster heater. See Figure 1-A (on the following page) for ***DUAL*** 1-phase power supply. Circuit breaker requirement (1) 50 amp & 30 amp.

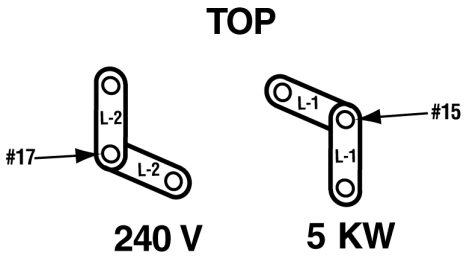
Figure 1-B

Single Phase



1. Install booster heater wires and bus bars as shown above.
2. Connect wire #59 to heater L1.
3. Connect wire #57 to heater L2.

Single Phase



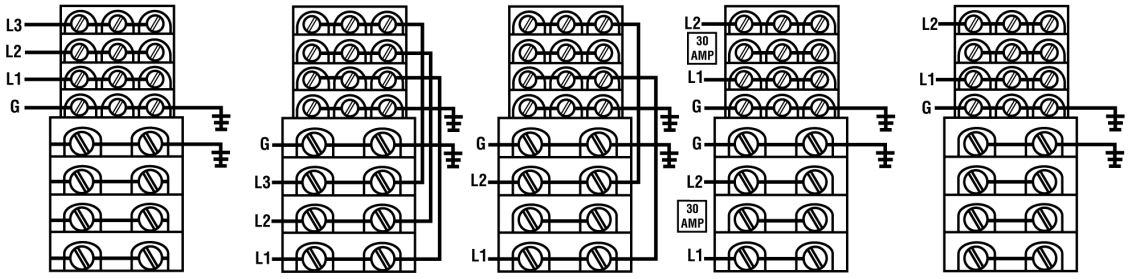
1. Install wash heater wires and bus bars as show above.
2. Connect wire #15 to heater L1.
3. Connect wire #17 to heater L2.

3. Wiring Options

Figure 1-A

3-Phase and 1 Phase
Wiring Options

Single-Source 220V 3-Phase (20 amp/12 g*)	Single-Source 220V 3-Phase (50 amp/8 g*)	Single-Source 220V 1-Phase (80 amp/4 g*)	***DUAL*-Source 220V 1-Phase (50 amp/8 g*) (30 amp/10 g*)**	Single-Source 220V 1-Phase (30 amp/10 g*)
(without Booster)				(without booster)



**g*=gauge

DISPENSER HOOK-UP

1. The power signal is 208/230 volts. The power block is labeled inside the control panel. Conduit holes for both detergent & rinse are supplied in the control panel.
2. A threaded (1/8") injection point is provided on the final rinse Teflon mixing chamber located off the back of the machine.
3. A (7/8") hole is provided in the tank for a probe access. It is located on the front side of the wash tank behind the wash tank heater cover.

MAIN POWER CONNECTION

Please refer to the machine data plate or choose one of the five (5) power connections illustrated above (Figure 1-A). Electrical requirements are shown for machines with or without booster heater, three or single phase.

WARNING: Insure that the machine is properly grounded and complies with all local and national codes. **INJURY OR DEATH MAY OCCUR FROM SHOCK, IF THE MACHINE IS NOT PROPERLY GROUNDED**.

Install power supply wires, L1, L2 and L3 (3-Phase) to the appropriate terminals marked L1, L2, and L3 on the power block. (If applicable, the high or "wild" leg must be connected to the L2 Terminal.)

4. Quick service guide

MODEL: CMA 180 HIGH TEMP

TECHNICAL ISSUE	**CAUSE**	SOLUTION
Door magnetic reed switch problem	Faulty magnetic reed switch	Check wire connections inside control box Contact factory for new retrofit, corner P/N 00566.10 straight P/N 00566.20
Door mechanical switch problem	Switch alignment issue	Align switch
	Switch button broke	Replace switch, P/N00562.00
Pump motor not running	Delimer switch is in OFF position	Flip to NORMAL position
	Loose wire connections	Check and crimp connectors
	Faulty # 3 micro switch in cam timer	Replace micro switch, P/N 00411.00
	Faulty contactor	Replace contactor, P/N 00404.85
	Faulty wash pump motor	Replace wash pump motor, P/N 00201.00
Pump motor runs continuous	Faulty # 3 micro switch in cam timer	Replace micro switch, P/N 00411.00
	Delimer switch is in DELIME position	Flip to NORMAL position
	Faulty contactor	Replace contactor, P/N 00404.85
Final rinse water below 180 degree F	Booster heater thermostat not properly set	Adjust thermostat
	Incoming main water temperature below 140 F	Raise water temperature to 140 F
	Tripped or faulty high limit switch	Reset or replace high limit switch, P/N 17523.5
	Faulty contactor	Replace contactor, P/N 13003.17
	Faulty booster heater element	Replace heating element, P/N 13417.67
	Scaled heating element	De- scale heating element
Wash tank heater is not operational	Thermostat is not properly adjusted	Adjust thermostat
	Loose lead connection	Check connectors and secure
	Tripped or faulty high limit switch	Reset or replace high limit switch, P/N 17523.5
	Faulty float switch	Replace float switch, P/N 13463.00
	Faulty contactor	Replace contactor, P/N13003.50
	Faulty heating element	Replace heating element, P/N 13417.65
Low water pressure at the final rinse	Water regulator not adjusted properly	Adjust regulator to 18-20 PSI
	Clogged final rinse spray jets	Clean jets
	Missing final rinse spray end cap	Replace end cap, P/N 00308.17
	Low incoming water pressure from building	Increase pressure
Water solenoid leaks	Scaled or dirty solenoid valve	Clean valve
	Faulty solenoid valve diaphragm	Replace diaphragm, P/N 00706.00
Wash water temperature too low/high	Thermostat not properly set	Adjust thermostat
	Scaled heating element	Clean scale, delime machine
	Faulty temperature gauge	Replace gauge, P/N 03202.00
Machine does not operate when the door is closed	Position or proper operation of door switch	Adjust or replace door switch, P/N 00557.55
	Delimer switch is on OFF position	Flip to NORMAL position
	Faulty 1st micro switch in cam timer	Replace micro switch, P/N 00411.00
	Check cam timer motor	Replace timer if needed, P/N 00409.17
	Check ice cube relay	Replace if faulty, P/N 00631.05
	Faulty wash pump contactor	Replace contactor, P/N 00404.85

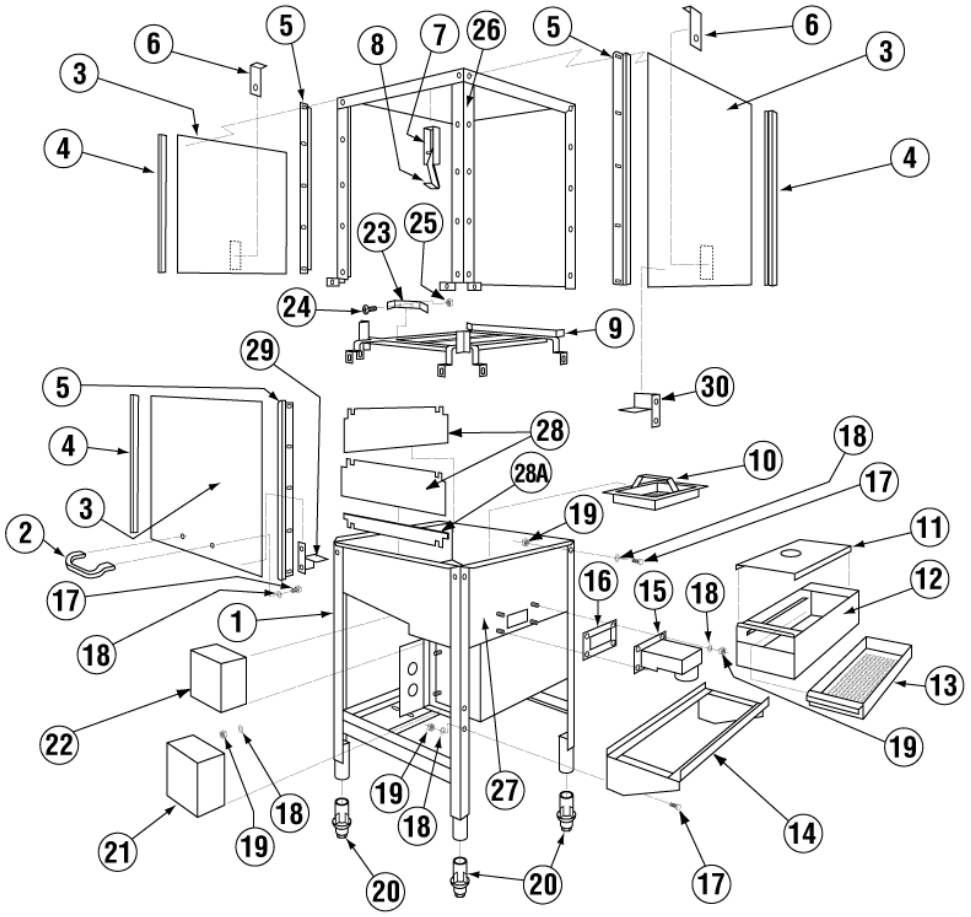
5. INITIAL PARTS KIT P/N 1100.17

P/N	DESCRIPTION	NO. REQ'D
00121.18	CMA-180 Drain Stopper O Ring	1
00200.10	Pump Assy 110/220V 60 Hz (Open)	1
00206.00	Pump Seal Kit	1
00302.19	CMA-180 Buna Gasket (#302.17)	1
00304.17	CMA-180 Wash Spray Arm	1
00304.19	CMA-180 Rinse Arm W/Bearing	1
00308.17	CMA-180 Rinse Arm SS End Plug	1
00308.50	Spray Arm End Plug SS	1
00363.00	Spray Base Lock Pin	1
00404.85	Contactor 208.240V 20AMP	1
00405.00	Start/Fill Switch Toggle	1
00411.00	Micro Switch	1
00475.00	Toggle Switch DPDT 15 AMP/Delimer	1
00501.17	Timer Motor Assy 60 Sec. 220V/60Hz	1
00562.00	Roller Door Switch	1
00602.00	Door Spring	1
00631.05	Ice Cube Relay 220V	1
00706.00	¾ Water Solenoid Repair Kit JE	1
00735.00	¾ Vac Breaker Rep Kit Watts	1
00738.15	¾ Solenoid Coil JE 220V	1
03202.00	Thermometer CMA-180 "Wash"	1
03202.00	Thermometer CMA-180 "Rinse"	1
03408.55	Counter (Face Mount Sm) 220/50	1
13003.17	Contactor 60 AMP 3 Pole	1
13003.50	Contactor 30 AMP	1
13304.55	SS Final Rinse Spray Jet – HT	1
13415.00	EGO Thermostat Retrofit Kit Rinse	1
13417.47	CMA-180 Booster Heater Gasket	1
13417.65	Immersion Heater 5 Kw 3hp/1ph	1
13417.67	Immersion Heater 12 Kw 3PH/1PH	1
13417.85	Thermostat Heater CMA-44/CMA-180 Wash	1
13463.10	Liquid Level Switch SS – CMA-44	1
13605.00	Pressure Gauge	1
00421.90	CMA-180 Power Switch	1
00421.78	CMA-180 Illuminated Plug	1
17523.51	Hi Limit Switch 250 deg	1

NOTE: CMA recommend that this Model CMA-180 initial parts kit be kept on hand, as a back up supply, in the event your machine should require emergency service. All the parts included in this kit are unique to the CMA-180 dishmachine, and are essential to the "quality" operation and customer service to the CMA-180 unit.

6. Exploded Views

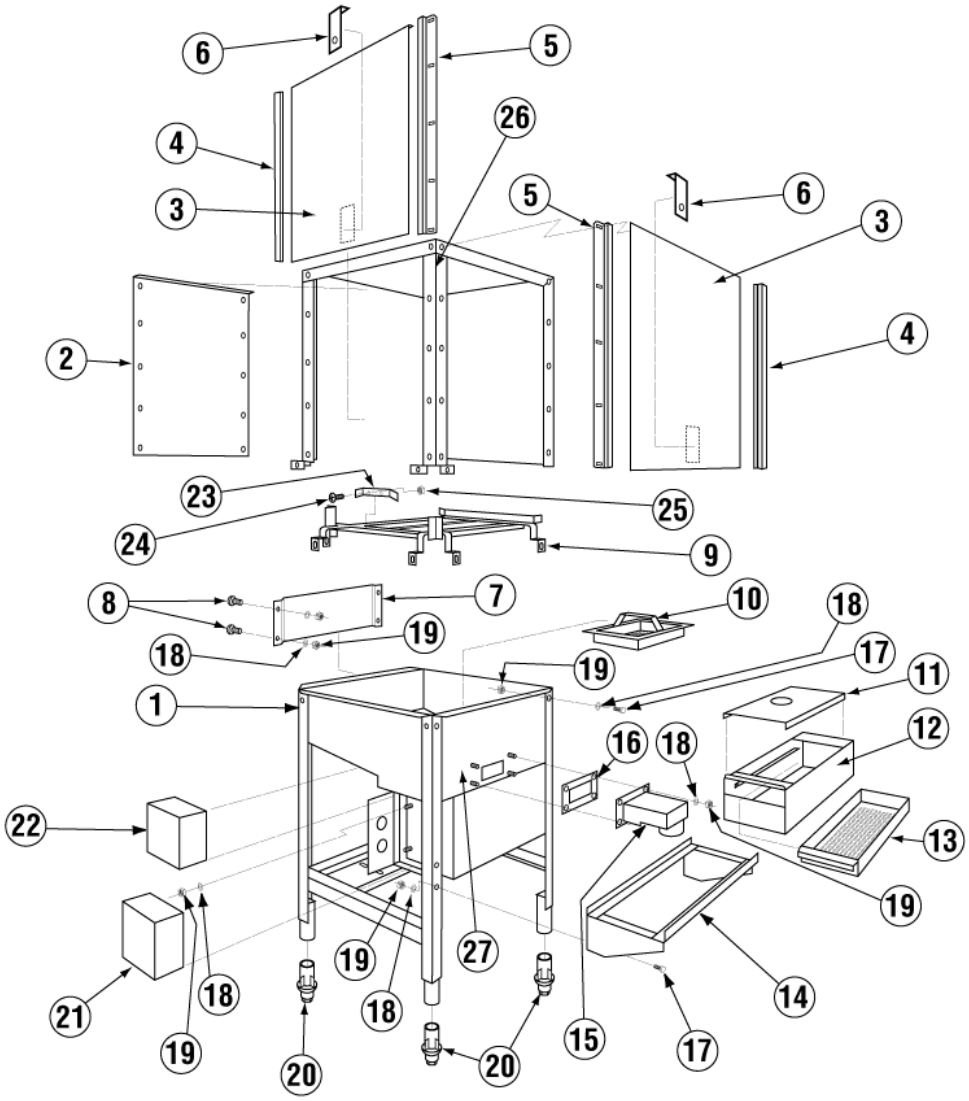
6.1. Straight Frame System Assembly



ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
1	1	17532.00	Stand
2	1	00535.30	Front door Handle
3	3	17506.00	Door
4	6	00636.17	E Z Door Glide
5	6	17554.00	Door Guide
6	2	17552.00	Door Stop
7	2	13915.00	Door Latch Bracket
8	1	13701.00	Open Door Latch
9	1	17505.00	Tray Track
10	1	17510.00	Strainer Basket
11	1	01579.30	Scrap Trap Lid
12	1	01579.10	Scrap Tray Body
13	1	01579.20	Scrap Trap Drawer
14	1	17579.00	Scrap Trap Holder
15	1	17511.00	Overflow
16	1	17402.00	Overflow Gasket

ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
17	24	00906.00	¼"-20x1/2" Hex Head Bolt
18	52	00924.00	¼" SS Washer
19	26	00912.00	¼"-20 Nylon Lock Nut
20	4	01310.00	Bullet Feet
21	1	17522.50	Wash Tank Heater Cover
22	1	17522.00	Booster Heater Cover
23	1	01582.00	Tray Track Guide
24	2	00941.00	8/32" x 5/8" Pan Head Screw
25	2	03801.00	10/32" Lock Nut
26	1	17530.00	Wrapper
27	1	17531.00	Pan
28	2	17506.60	Door Panel Splash Guard
28A	1	17506.65	Door Service Splash Guard
29	1	17506.21	Front Door Safety Bracket
30	1	17506.32	Right Door Safety Bracket

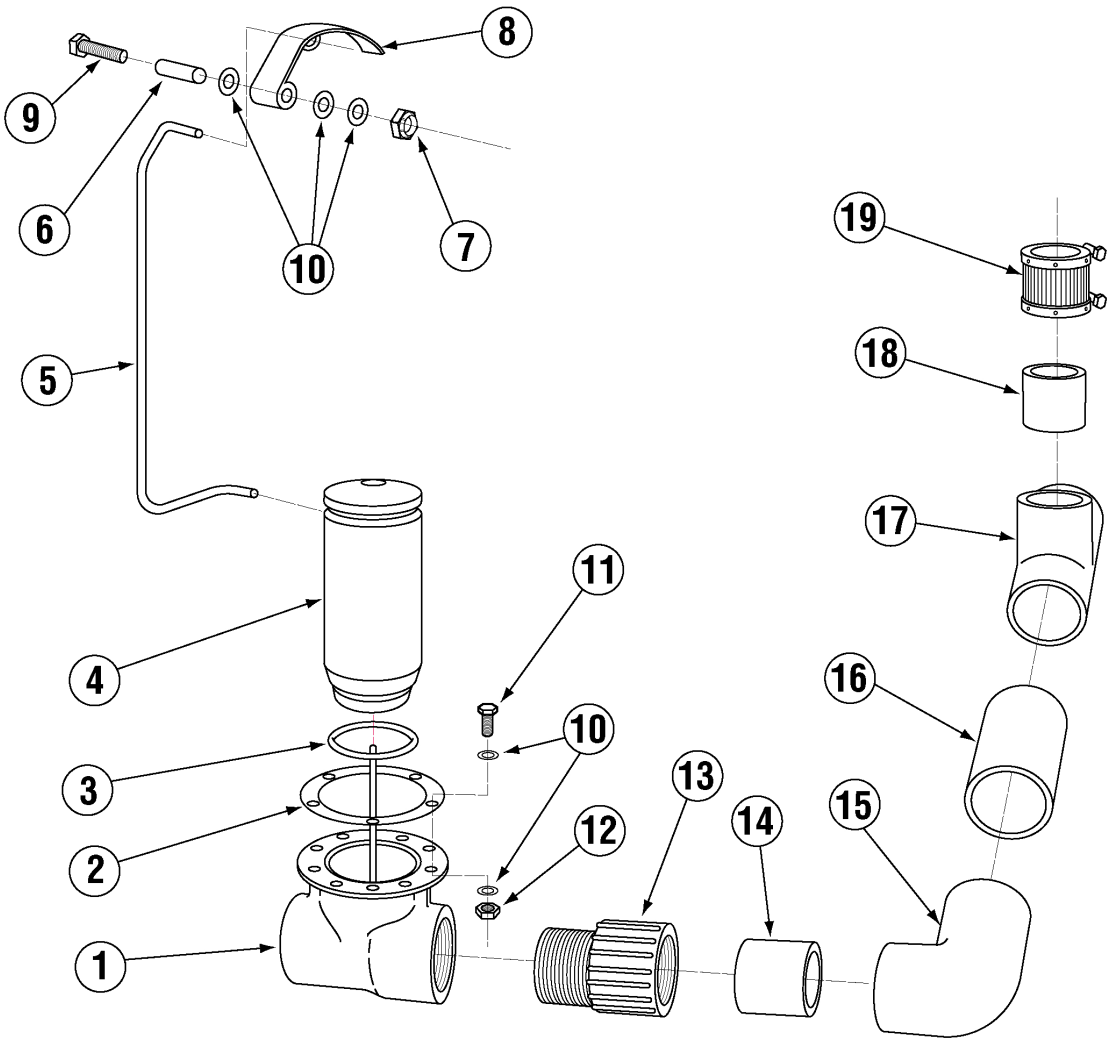
6.2. Corner Frame Assembly



ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
1	1	17532.00	Stand
2	1	17506.50	Door Panel Corner
3	2	17506.00	Door
4	4	00636.10	E Z Door Glide
5	4	17554.00	Door Guide
6	2	17552.00	Door Stop
7	1	17507.10	Air Gap Baffle
8	4	00905.00	¼" – 20 x ½ Truss Head Bolt
9	1	17505.00	Tray Track
10	1	17510.00	Strainer Basket
11	1	01579.30	Scrap Trap Lid
12	1	01579.10	Scrap Trap Body
13	1	01579.20	Scrap Trap Drawer
14	1	17579.00	Scrap Trap Holder

ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
15	1	17511.00	Overflow
16	1	17402.00	Overflow Gasket
17	24	00906.00	¼"-20x1/2" Hex Head Bolt
18	56	00924.00	¼" SS Washer
19	30	00912.00	¼"-20 Nylon Lock Nut
20	4	01310.00	Bullet Feet
21	1	17522.50	Wash Tank Heater Cover
22	1	17522.00	Booster Heater Cover
23	1	01582.00	Tray Track Guide
24	2	00941.00	8/32" x 5/8" Pan Head Screw
25	2	03801.00	10/32" Lock Nut
26	1	17530.00	Wrapper
27	1	17531.00	Pan

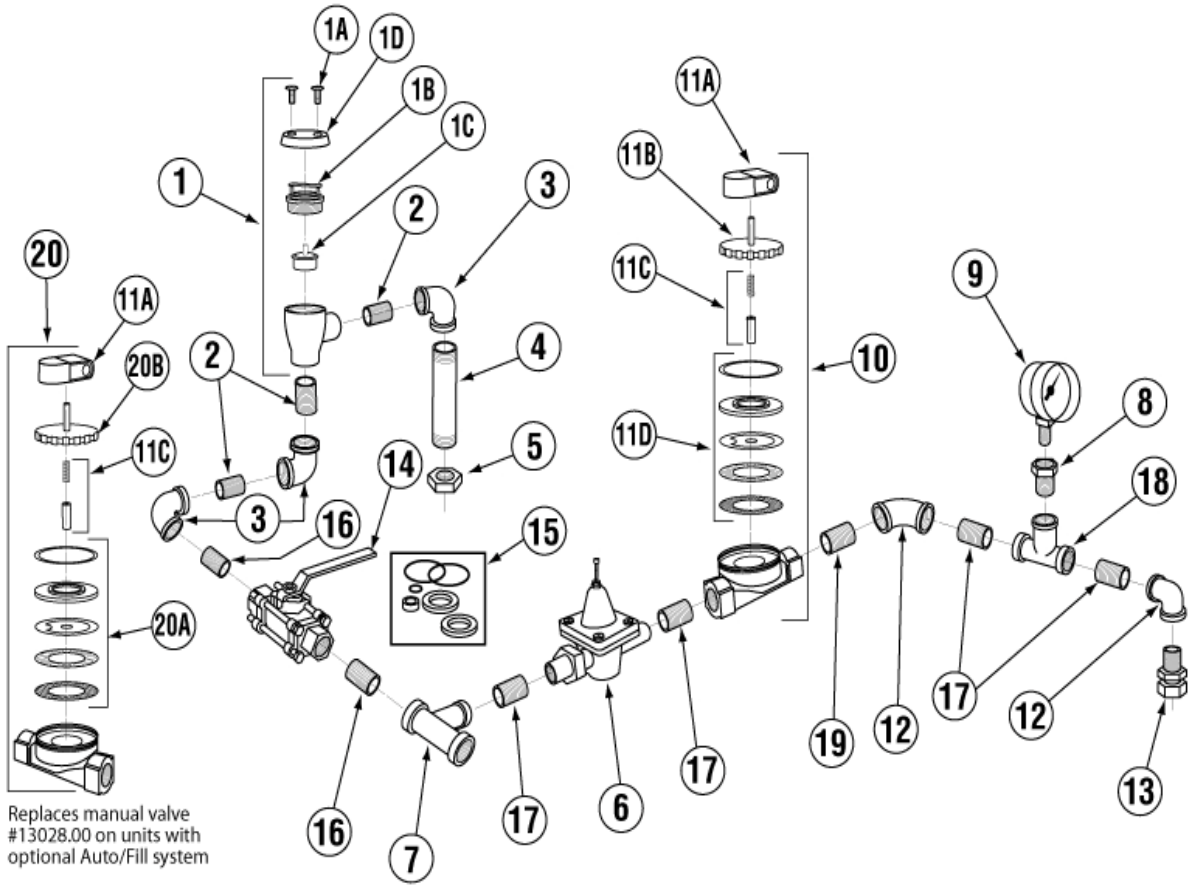
6.3. Drain System Assembly



ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
1	1	00113.17	Drain Tee Casting
2	1	00114.00	Drain Tee Gasket
3	1	00121.18	Drain Stopper "O" Ring
*4	1	00121.17	Drain Stopper
5	1	17581.00	Drain Linkage
6	1	17580.50	Drain Linkage Spacer
7	1	00912.00	¼-20 Nylon Lock Nut
8	1	17580.00	Drain Lever
9	1	00910.00	¼"-20x1 ½" Hex Head Bolt

ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
11	6	00901.00	5/16 –18x1" Hex Head Bolt
12	6	13805.00	5/16-18 Nylon Lock Nut
13	1	01313.00	2" PVC Slip x MIPT Adapter
14	1	05030.17	2" x 4" PVC Tubing
15	1	01312.00	PVC Slip x Slip 90 Ell
16	1	05030.27	2" x 6" PVC Tubing
17	1	01320.17	2" PVC Tee SxSxS
18	1	05030.10	2" x 3" PVC Tubing
19	1	01315.17	2" No Hub

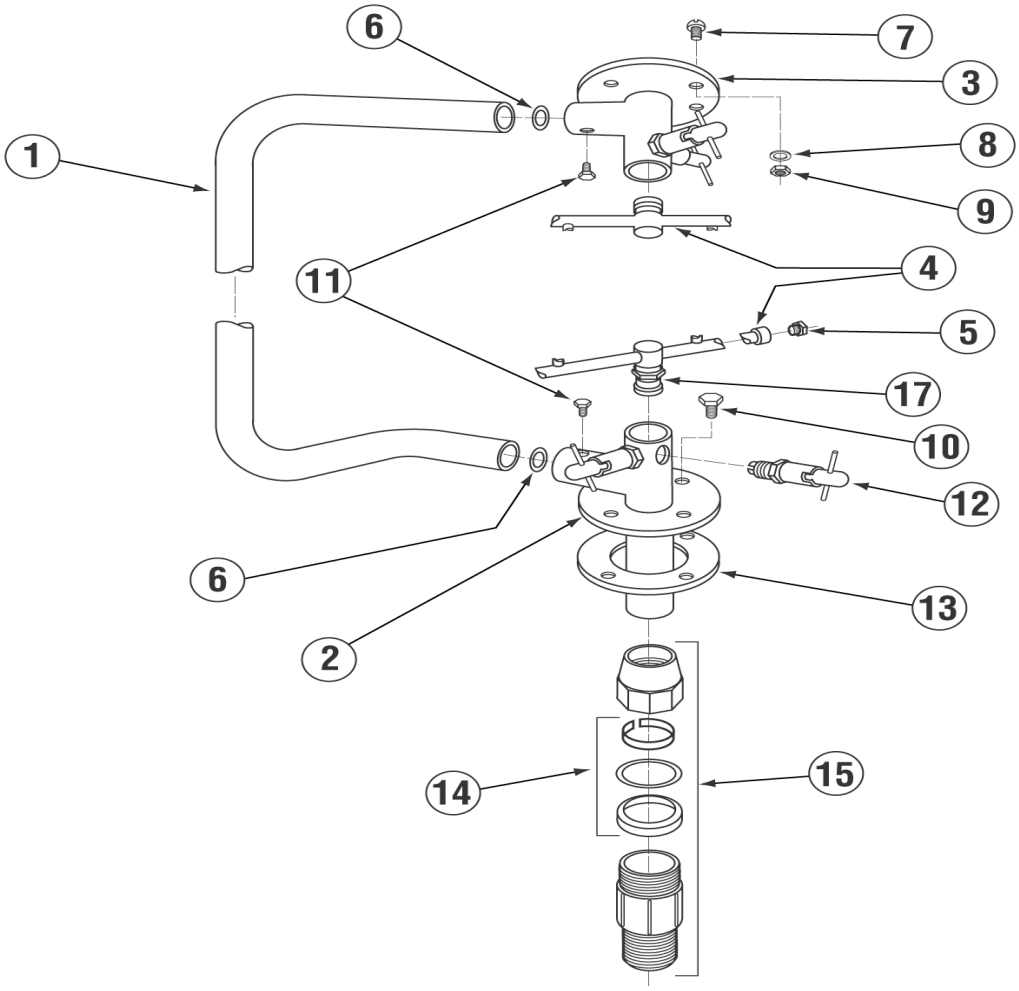
6.4. Plumbing System Assembly



ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
1	1	00710.50	Vacuum Breaker ¾" Watts
1A	--	00421.51	Pan Head Screw SS 6-32x1/4"
1B	--	00735.60	Vacuum Breaker Brass Bonnet ¾"
1C	--	00735.00	Vacuum Breaker Repair Kit ¾"
1D		00739.50	Vacuum Breaker Cap
2	3	13639.00	Nipple SS ¾" Close
3	3	13633.00	Elbow FXF Brass ¾"
4	1	13613.00	Nipple ¾" x 5 ½" Brass
5	2	13606.00	Jamb Nut Brass ¾"
6	1	13602.45	Pressure Regulator ½"
7	1	00716.10	Brass Tee ¾" x ¾" x ½" FXFXF
8	1	13604.00	Bushing ½" x ¼" Brass
9	1	13605.00	Pressure Gauge
10	1	03603.15	Water Sol Valve ½" 220V JE-C Series

ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
11A	1	00738.15	Water Sol Valve Coil 220V
11B	--	03603.20	Water Sol Valve Bonnet ½"
11C	--	00786.00	Water Sol Plunger G Style ½" & ¾" with spring
11D	--	00707.00	Water Sol Repair Kit JE ½"
12	2	41030.10	Elbow 90° ½" FXF
13	1	00760.00	Coupling 5/8" x ½" MIP
14	1	13028.00	Ball Valve 3/4"
15	--	13028.10	¾" Ball Valve Repair Kit
16	2	13635.10	Nipple Brass 2/4" x 2"
17	4	00742.00	Nipple ½" x 1 ½"
18	1	00743.10	Tee ½" FXFXF
19	1	00780.00	Nipple ½" x 2 ½"
20	-	00705.00	Water Sol Valve 3/4" 220V JE
20A	-	00706.00	Water Sol Repair Kit JE ¾"
20B	-	00705.20	Water Sol Valve Bonnet ¾"

6.5. Wash Spray System



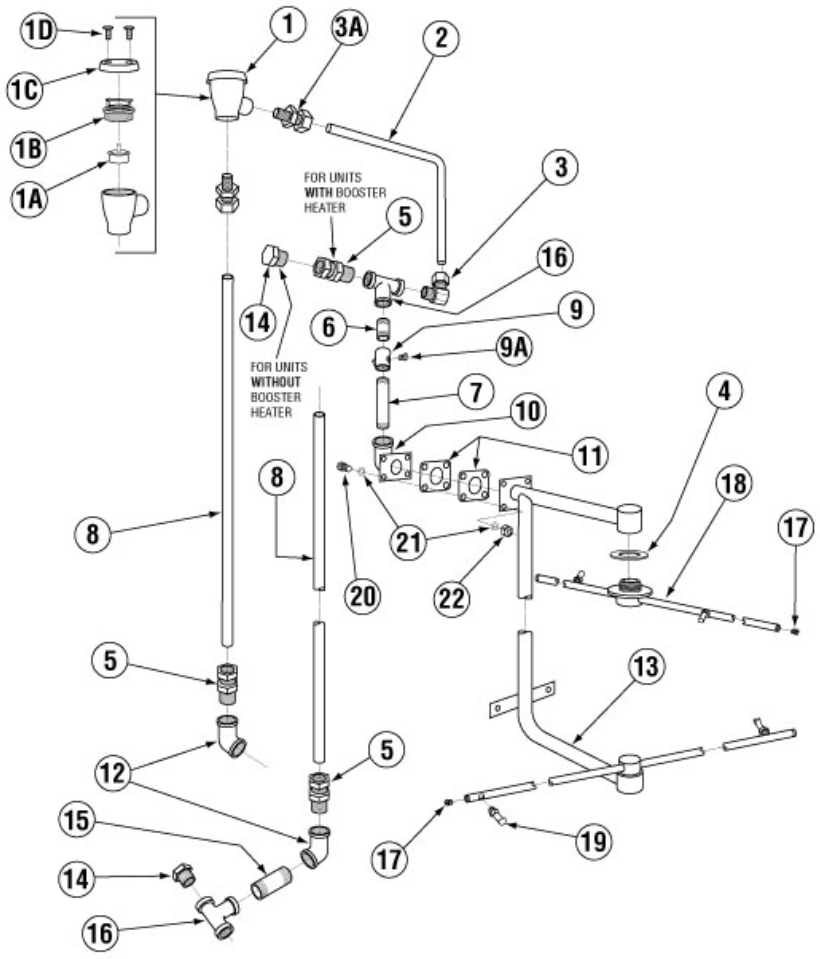
ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
1	1	00303.17	Manifold
*2	1	00360.24	Lower Spray Base Assembly
**3	1	00361.10	Upper Spray Base Assembly
4	2	00304.17	Wash Spray Arm
5	4	00308.50	Spray Arm End Plug SS
6	2	00302.51	Spray Base "O" Ring
7	4	00905.00	Truss Head Bolt ¼"-20"x1/2"
8	12	00924.00	SS Washer ¼"

**P/N 00361.10 Includes Items 11,12 & 6

ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
9	8	00912.00	Nylon Lock Nut ¼" – 20
10	4	00914.10	Hex Head Bolt ¼"-20"x5/8"
11	--	00966.10	Hex Head SS Bolt 10-32
12	--	00363.00	Spray Base Lock Pin
13	1	00302.00	Spray Base Gasket
14	1	002500	Compression Gasket
15	1	00221.00	1" Compression Fitting
16	1	00759.17	Base Quick Release W/Nipple

*P/N 00360.24 Includes Items 11, 12 & 6

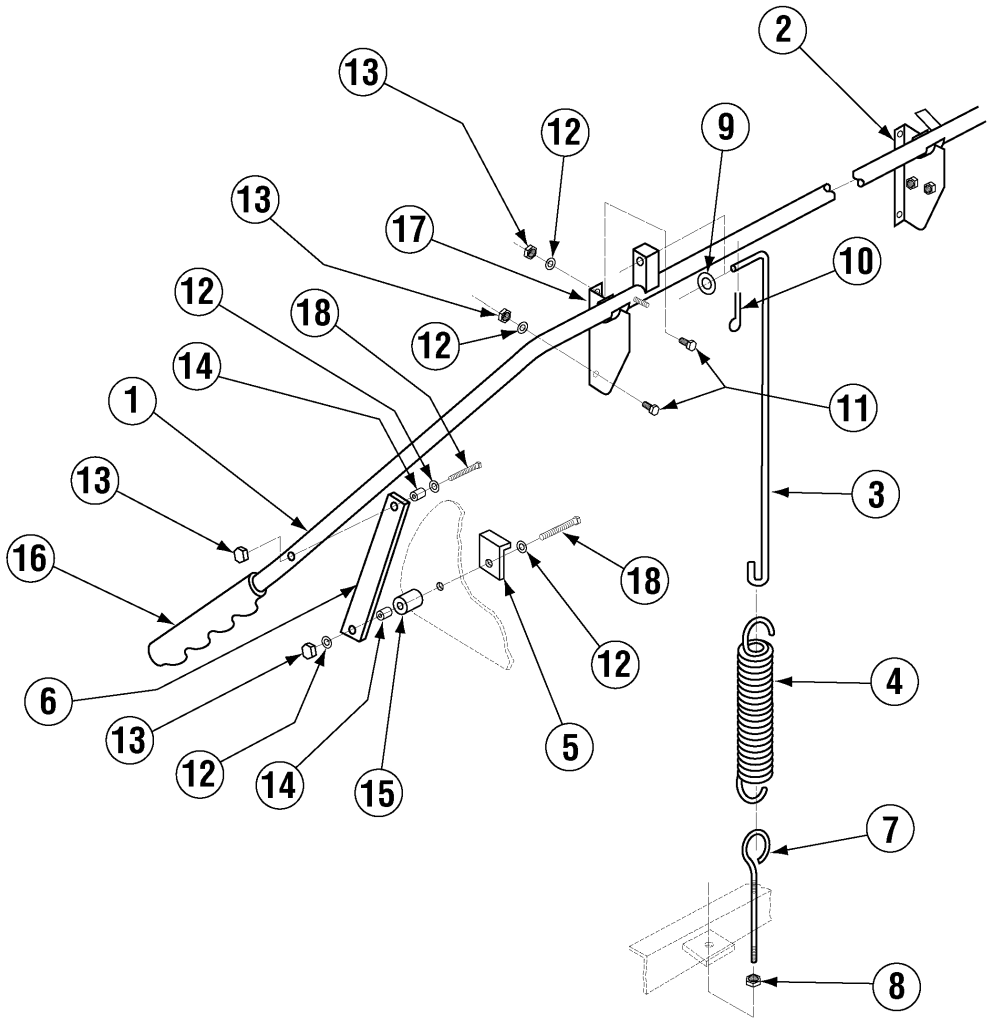
6.6. Final Rinse System



ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
1	1	03624.00	½" Vacuum Breaker Watts
1A	--	03623.00	½" Vacuum Brkr Kit- Watts
1B	--	03624.25	½" Brass Bonnet
1C	--	00739.50	¾" Vacuum Breaker Cap SS
1D	--	00421.51	6-32 x ¼" SS Pan Head Screw Phillips
2	1	05004.10	3/8" SS Tubing
3	1	00436.30	3/8" Comp x ½" MIP Elbow
3A	1	04305.17	3/8" Comp x ½" MIP Fitting
4	2	00760.00	Bearing Gasket
5	4	00760.00	5/8" Comp x ½" MIP Adapter
6	1	13629.00	½" S.S. Close Nipple
7	1	13629.82	Nipple SS ½" x 5 ½"
8	7	05007.00	5/8" OD .049 Wall 304 SS Tubing
9	1	13669.45	Mixing Chamber SS

ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
10	1	13306.17	Final Rinse Elbow Assy
11	2	04306.00	Square Manifold Gasket
12	2	41030.10	½" 90 deg Ell FxF (Rm)
13	1	17401.00	Final Rinse Manifold
14	2	13642.00	½" Brass Plug
15	1	00780.00	Nipple Bras ½" x 2 ½"
16	1	00743.10	½" Tee F x F x F
17	4	00308.17	Rinse Arm SS End Plug
18	2	00304.19	Rinse Arm w/Bearing
19	8	13304.55	SS Final Rinse Spray Jet Ht
20	4	00926.00	SS Washer 5/16"
21	8	00926.00	SS Washer 5/16"
22	4	00912.00	¼"-20 Nylon Lock Nut

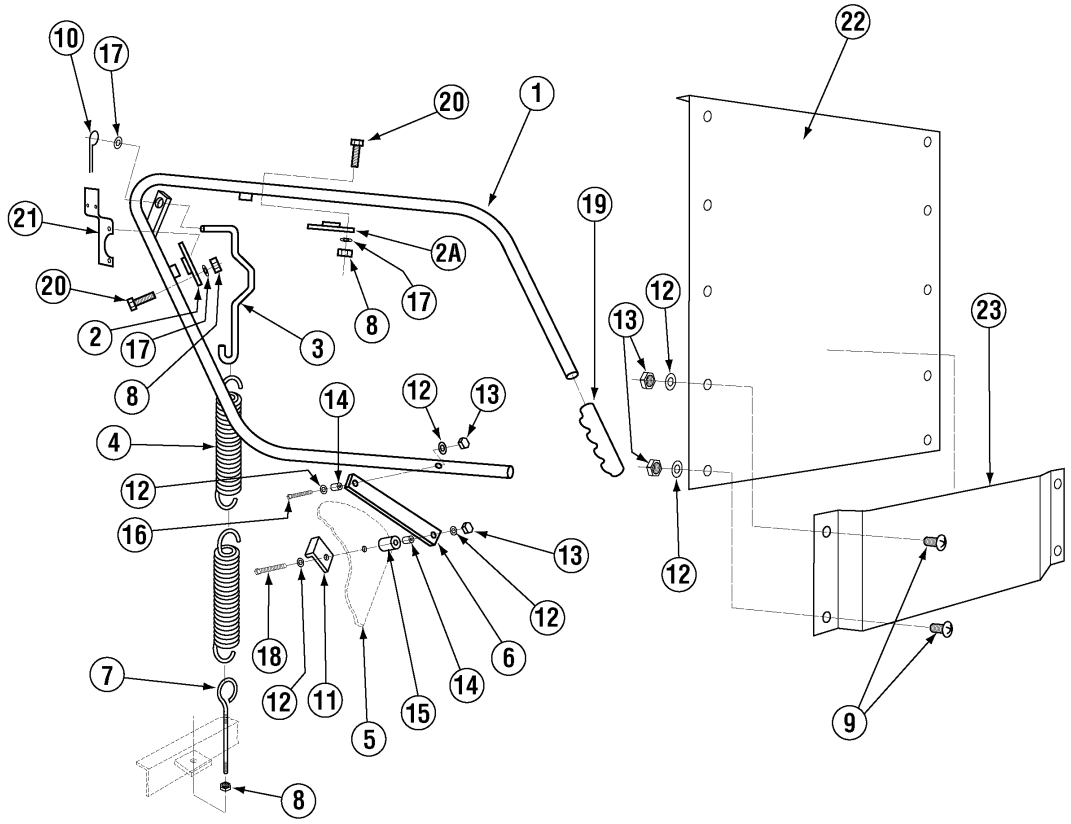
6.7. CMA-180 Door Handle Assembly



ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
1	1	00613.17	Door Handle
2	1	01556.50	Right Door Handle Support 1"
3	2	00603.07	Door Spring Extension Rod
4	2	00602.00	Door Spring
5	2	17552.00	Door Stop
6	2	01553.00	Door Handle Link
7	2	00606.00	5/16"-18 x 7" Eyebolt
8	2	00913.00	5/16"-18" Nut
9	2	00926.00	5/16" SS Washer

ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
10	2	00900.00	Cotter Pin
11	4	00906.00	¼"-20 x ½" Hex Head screw
12	8	00924.00	¼" SS Washer
13	8	00912.00	¼"-20" Nylon Insert Lock Nut
14	4	00610.00	Door Handle Spacer (Small)
15	4	00611.00	Door Handle Spacer (Large)
16	2	00607.04	Door Handle Grip
17	1	01555.50	Left Door Handle Support
18	4	00903.00	¼"-20 x 1 ¾" Hex Screw

6.8. Corner Door Handle Assembly



ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
1	1	00613.04	Door Handle
2	1	00619.34	Door Handle Mntg Plate Long
2A	1	00619.44	Door Handle Mntg Plate Short
3	1	00603.04	Door Spring Extension
4	2	00602.00	Door Spring
5	2	17506.00	Door
6	2	01553.00	Door Handle Link
7	1	00606.00	5/16"-18 x 7" Eyebolt
8	9	00913.00	5/16"-18" Nut
9	10	00905.00	¼"-20x1/2" Truss Head Bolt
10	1	00900.00	Cotter Pin
11	2	01552.00	Door Stop
12	16	00924.00	¼" SS Washer

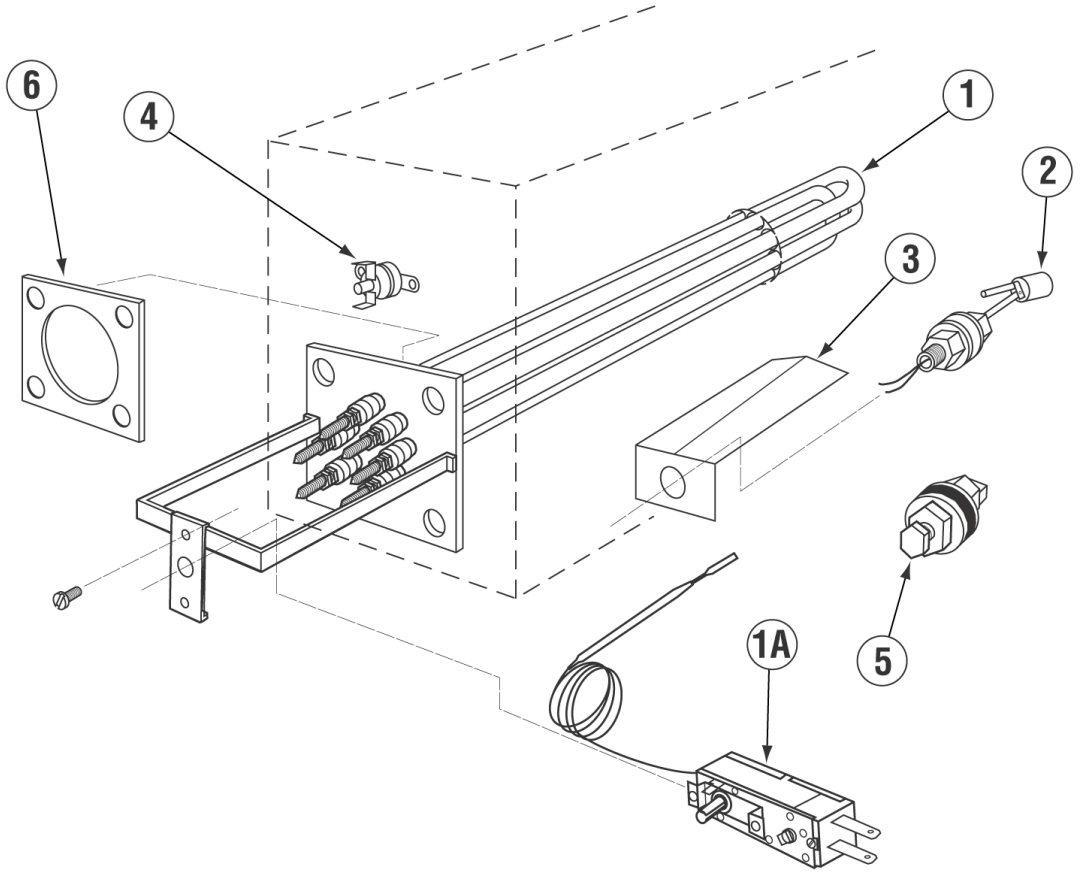
ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
13	14	00912.00	¼-20 Nylon Lock Nut
14	4	00610.00	Door Handle Spacer (Sm)
15	4	00611.00	Door Handle Spacer (Lg)
16	2	00903.00	¼-20 x 1 ¾" Hex Head Bolt
17	9	00926.00	5/16" SS Washer
18	2	00910.00	¼"-20x1/2" Hex Head Bolt
19	2	00607.04	Door Handle Cap
20	8	00920.00	5/16-18x3/4" Hex Head Bolt
21	1	00563.20	Limit Switch Door Bracket
22	1	17506.50	Door Panel Corner
23	1	17507.10	Air Gap Corner

6.9. Pump System Assembly

ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
1	1	00201.00	Pump Motor 1 HP
2	1	03224.00	Small Pump Base
3	6	00921.00	3/8"-16 x 34" Hex Head Bolt
3A	2	00975.00	3/8-16x 1 ½" Stud
4	1	00206.00	Pump Seal Kit
5	1	03226.00	Pump "O" Ring
6	1	03222.05	Impeller
7	1	04206.00	Pump Cover

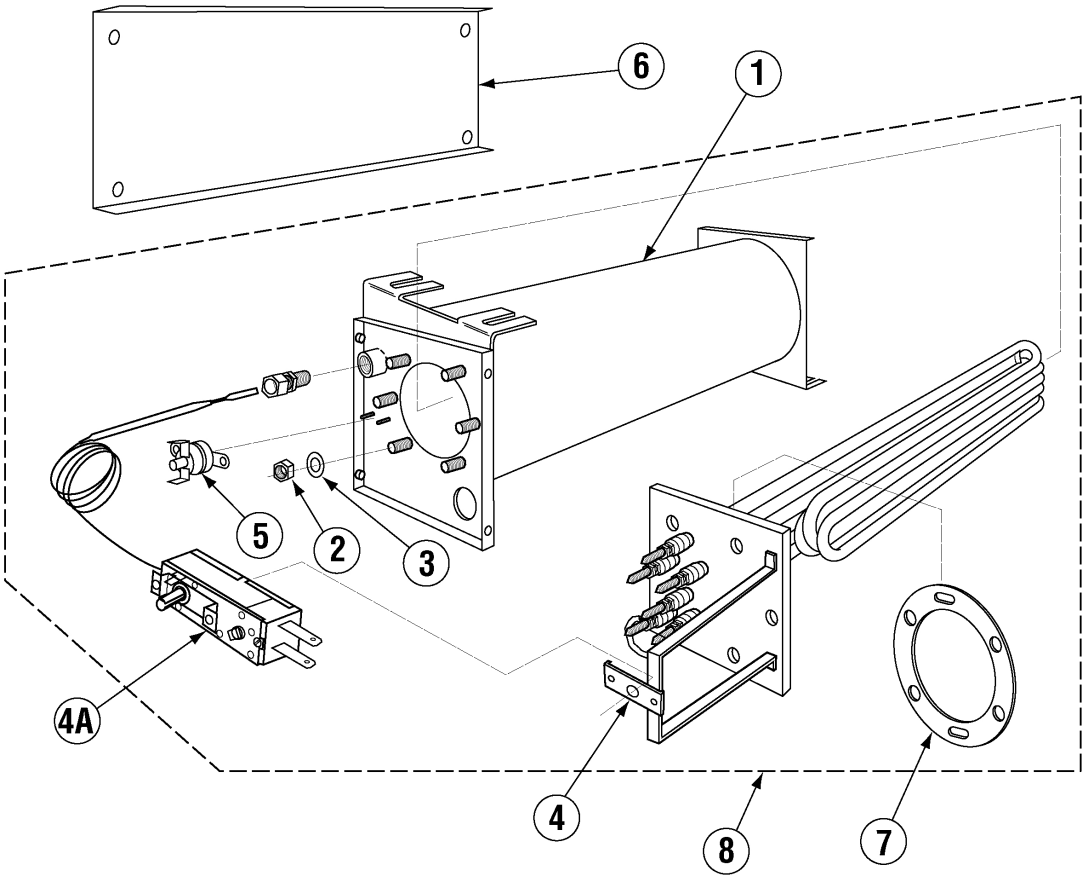
ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
8	1	00208.00	Slip Joint Nut Gasket
9	1	04204.00	Compression Nut (2.5)
10	2	00906.00	¼-20 x 1/2" Hex Bolt
11	2	00924.00	¼" SS Washer
12	2	00912.00	¼"-20 Nylon Lock Nut
13	2	00238.00	3/8" Male Plug
*14	Assy.	00200.10	Pump Assembly
15	1	00208.20	Slip Joint Nut Friction Ring
*P/N 00200.10 Includes Items 1,2,3,4,5 and 6			

6.10. Wash Tank Heater



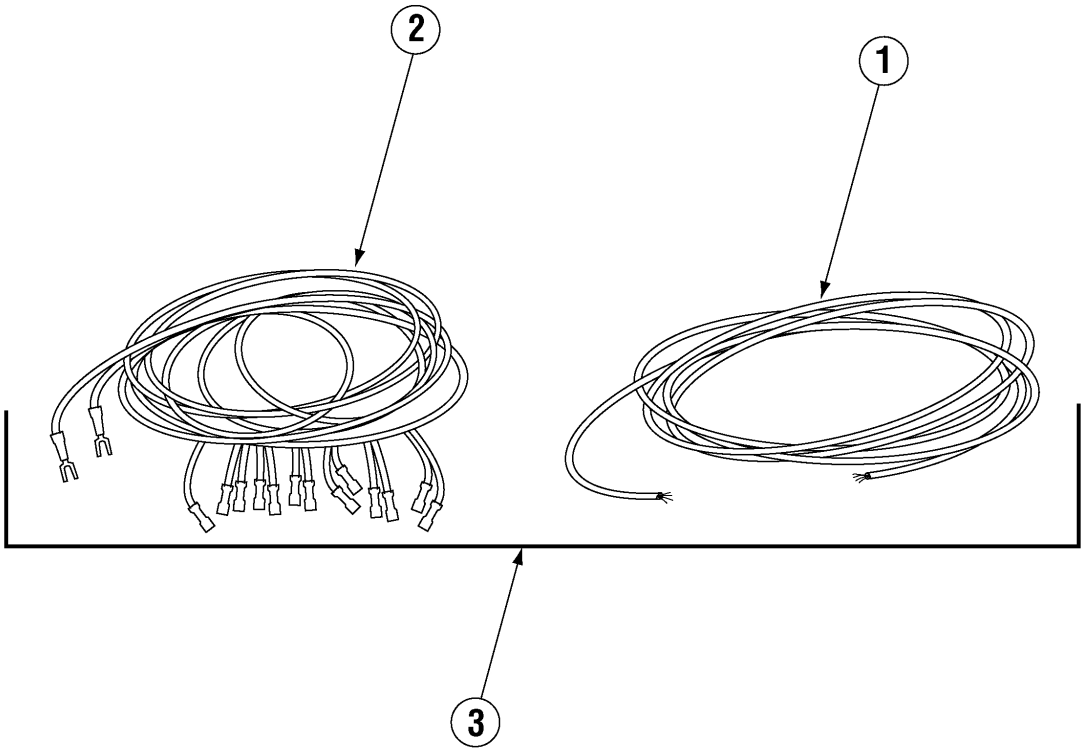
ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
1	1	13417.65	Wash Tank Heater 5KW 3PH
1A	--	13417.89	Heater Thermostat
2	1	13463.10	Liquid Level Switch
3	1	13463.50	Liquid Level Switch Shield
4	1	17523.51	Hi-Limit Switch-Wash 250 Deg.
5	1	13477.20	7/8" Probe Hole Plug
6	1	13417.45	Wash Tank Heater Gasket

6.11. Booster Heater



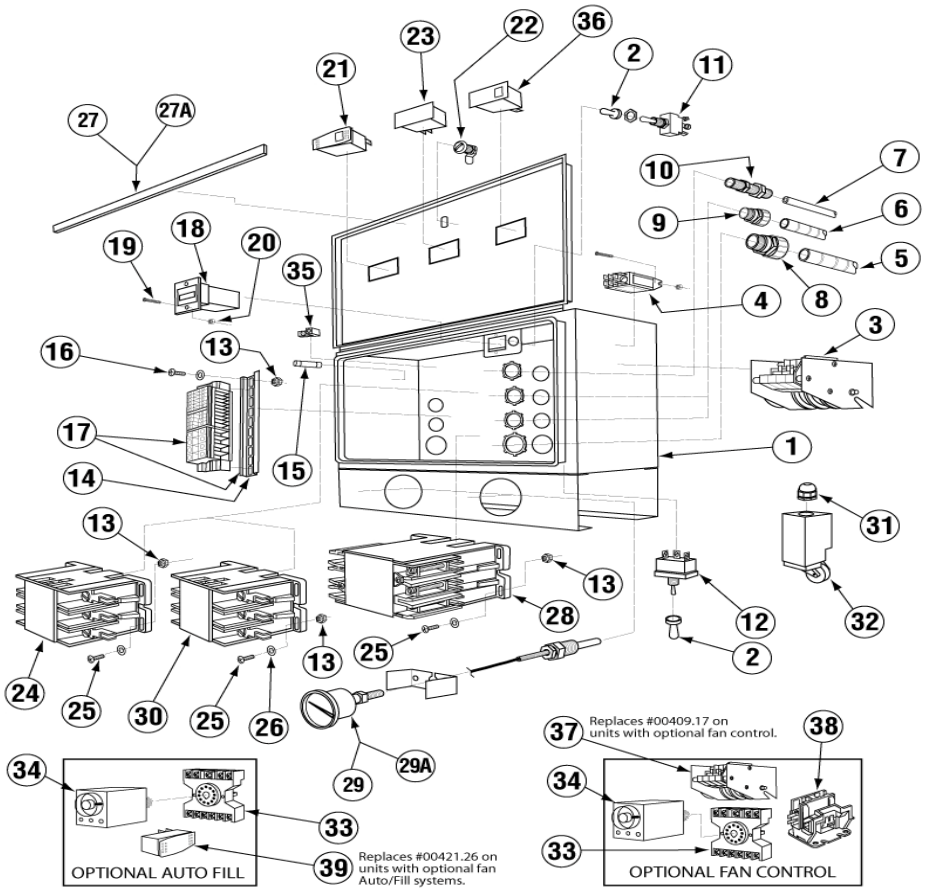
ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
1	1	17550.00	Booster Tank
2	6	13805.00	Nylon Lock Nut 5/6"-18
3	6	00926.00	Washer SS 5/16"
**4	1	13417.67	Immersion Heater 12KW 3PH
4A	1	13417.89	Thermostat 12KW Heater
5	1	17523.51	Hi-Limit Switch-Booster 250 degrees
*6	1	17520.00	Booster Heater Shield*
7	1	13417.47	Booster Heater Gasket
8	1	17560.00	Complete Assembly
*For Straight Through Applications Only. **Includes Gasket #13417.47			

6.12. Wiring Harnesses



ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
1	1	17514.00	Harness (Without Booster)
2	1	17514.17	Booster Wiring Harness
3	--	00414.17	Harness (Complete)

6.13. Control Box Assembly


Replaces #00409.17 on units with optional fan control.
OPTIONAL AUTO FILL
Replaces #00421.26 on units with optional fan Auto/Fill systems.
OPTIONAL FAN CONTROL

ITEM NO.	NO. REQ'D	P/N	DESCRIPTION		ITEM NO.	NO. REQ'D	P/N	DESCRIPTION
1	1	17503.00	Control Box		19	4	00911.00	Pan Head Screw 8-32 x 1/2"
2	2	00470.10	Toggle Switch Rubber Boot		20	4	00927.00	Lock Nut 8-32
3*	1	00409.17	Timer 60 Seconds (4 Cam)		21	1	00421.90	Power Switch
4	1	00631.05	Ice Cube Relay 220V		22	1	00449.50	Keyless Lock
5	6 Ft.	00400.85	Conduit ¾" Sealtite		23	1	00421.26	Rocker Switch Hole plug
6	6 Ft.	00400.10	Conduit ½" Sealtite		24	1	00404.85	Motor Contactor 208/240V 20A
7	2 Ft.	00400.00	Conduit 3/8" Sealtite		25	6	13825.00	Pan Head Screw 8-31 x 1"
8	1	00401.85	St-3/4" Straight Connector		26	6	04806.00	#10 Brass Washer
9	1	00401.10	St-1/2" Straight Connector		27	2	17503.17	Control Box Sponge Long
10	1	00401.00	St-3/8" Straight Connector		27A	2	17503.18	Control Box Sponge Short
11	1	00475.00	Delimer Switch DPDT 15 amp		28	1	13003.17	Contactor 60 Amp 3 Pole 220V
12	1	03470.00	Toggle Switch Momentary (Screw Terminal)		29	1	03202.00	Thermometer "Wash"
13	8	03801.00	Nylon Lock Nut 10-32		29A	1	03202.00	Thermometer "Rinse"
14	1	17400.06	Mountain Din Rail		29B	--	03202.00	Thermometer Bracket
15	1	13403.26	Fuse 3 amp/250v Slow Blow		30	1	13003.50	Heater Contactor 40 Amp
16	2	00941.00	Pan Head Screw 10-32x5/8"		31	1	00562.60	Door Roller Switch Connector
17	1	17400.17	Terminal Block Assembly		32	1	00562.00	Door Roller Switch
17A	2	17400.04	30 Amp Terminal Block-Red		33	--	13419.85	Timer Power Block Socket
17B	3	17400.03	60 Amp Terminal Block-Black		34	--	13418.85	60 Sec. Timer Relay
17C	4	17400.02	85 Amp Terminal Block-Natural		35	1	13426.50	Ground Block
17D	2	17400.08	30 Amp Terminal Block-Blue		36	1	00421.78	Illuminated Plug.
17E	2	17400.09	30 Amp Terminal Block-Natural		37	-	00409.30	Timer 60 Sec. 5 Cam 180
17F	1	17400.07	60 Amp Terminal Block-Green		38	-	00404.81	Contactor 220V/20 Amp DP
18	1	03408.55	Counter Face Mount 220V		39	-	00421.89	Rocker Switch Momentary

*(Optional Timer 2 min.)

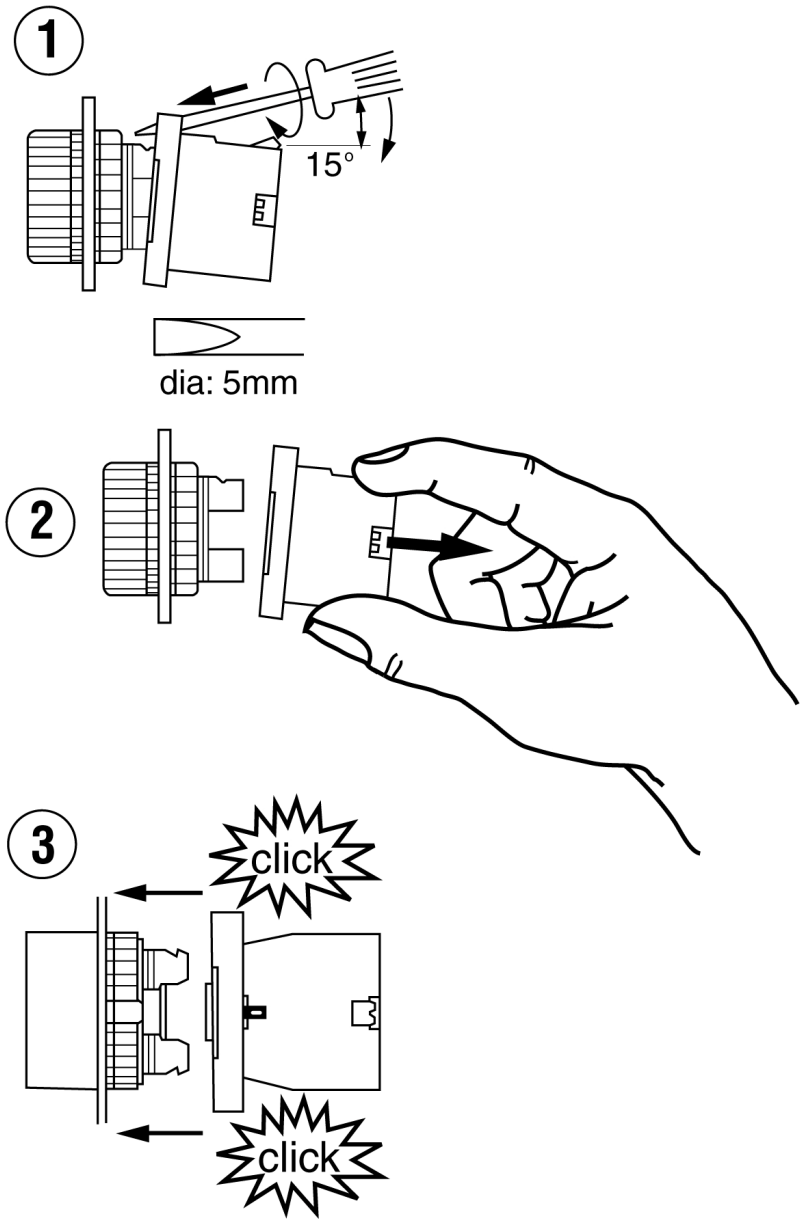
7. Power Switch Bulb Replacement Instructions

TO REPLACE BULB

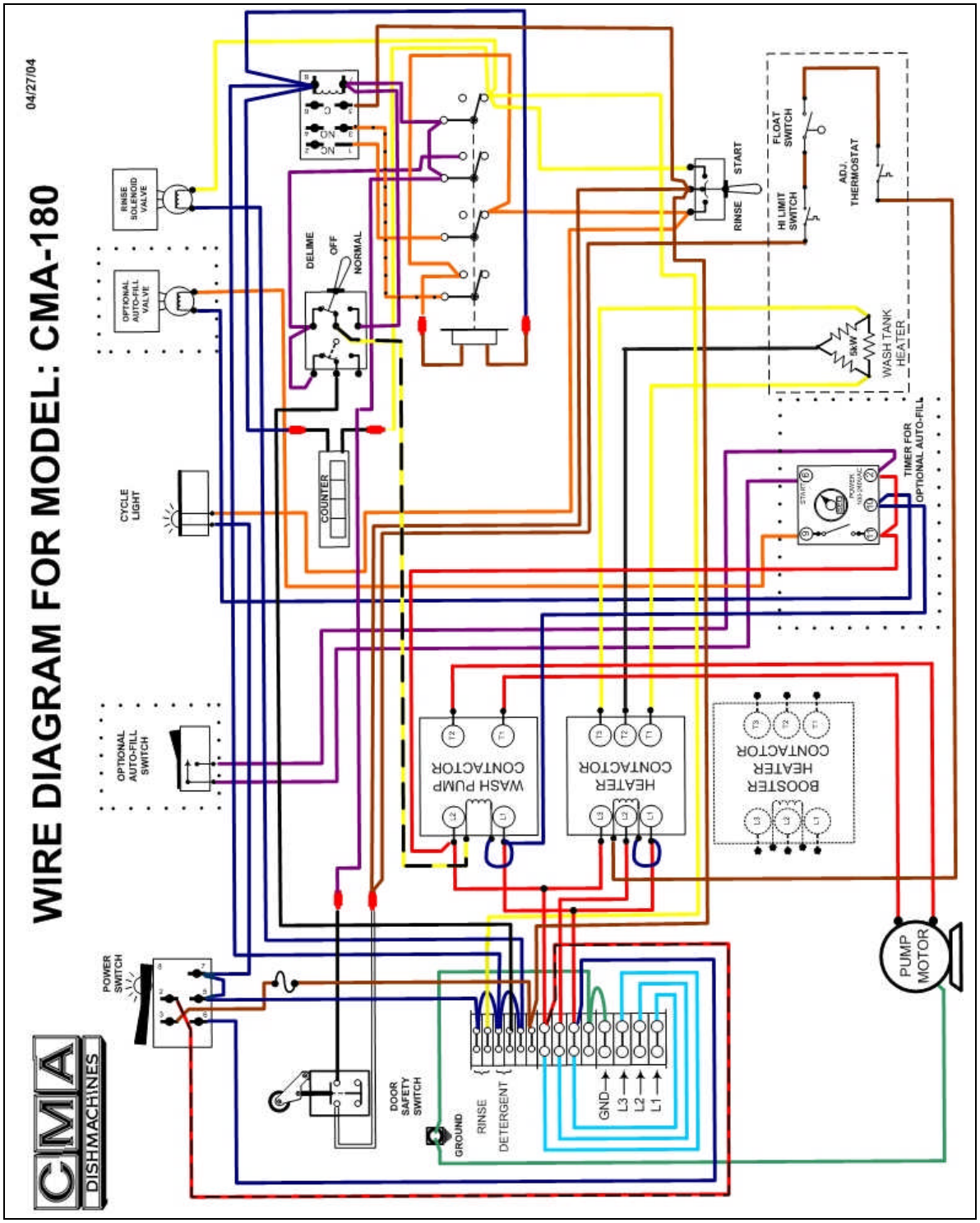
1. Using a 5mm-screw driver dismount the light module from the actuator as shown in illustration 1 & 2.

2. Replace the burnt bulb with a new one P/N 17421.10 by twisting the bulb 90 degrees.

3. Mount the light module by snapping it onto the actuator as shown in illustration 3.



8. Wire Diagram



9. Wire Diagram for CMA- 180 Booster only